

REMARKS/ARGUMENTS

Initially, Applicants would like to express appreciation to the Examiner for the detailed Official Action provided, for the acknowledgment of Applicants Information Disclosure Statements by return of the Form PTO-1449s, for acknowledging Applicants' Claim for Priority and receipt of the certified copy of the priority document, and for acknowledging the acceptability of the Drawings.

Upon entry of the above amendments, claims 1 and 13-18 will have been amended, and claims 2-12 will have been canceled without prejudice or disclaimer to the subject matter contained therein. Claims 1 and 13-19 are currently pending. Applicants respectfully request reconsideration of the outstanding objection and rejections, and allowance of all the claims pending in the present application.

Information Disclosure Statement

In order to clarify the record, Applicants note that the Examiner has indicated that the Information Disclosure Statement filed on April 20, 2009 fail to comply with 37 CFR 1.98(a)(1); and therefore, has been placed in the file, but has not been considered.

However, Applicants submit that the Information Disclosure Statement filed on April 20, 2009 was *merely* filed to bring to the Examiner's attention a Foreign Official Action received in a related patent family member. In this regard, Applicants submit that the Foreign Official Action cited documents previously cited to the Examiner in the Information Disclosure Statement filed February 15, 2006. Accordingly, Applicants submit that it is/was not necessary to list these documents on another Form PTO 1449. In this regard, Applicants note that the

Examiner has indicated, by initialing the Information Disclosure Statement filed February 15, 2006, that the prior art documents cited in the Information Disclosure Statement filed on April 20, 2009 have been considered.

Objection to the Specification

In the Official Action, the Examiner objected to the abstract of the disclosure. In this regard, Applicants submit that a new replacement Abstract is being submitted concurrently herewith in order to address the Examiner's concerns. Accordingly, the objection to the Specification because of the length of the Abstract is believed to be moot and should be withdrawn.

Listing of the Rejections under 35 U.S.C. 102 and 103

In the Official Action, the Examiner rejected claims 1 and 11-13 under 35 U.S.C. 102(b) as being anticipated by FUKASAWA et al. (EP 0306613);

the Examiner rejected claims 14, 16 and 17 under 35 U.S.C. 103(a) as being unpatentable over FUKASAWA; and

the Examiner rejected claims 2-10, 15, 18 and 19 under 35 U.S.C. 10(b) as being unpatentable over FUKASAWA in view of KANNO et al. (U.S. Patent No. 4,201,673).

Without acquiescing to the propriety of the Examiner's rejections, Applicants submit that claim 1 has been amended solely in order to expedite prosecution of the presently claimed invention.

In this regard, Applicants note that none of the applied prior art, alone or in any properly reasoned combination, discloses at least the combination of features recited in independent claim 1.

In particular, amended claim 1 generally sets forth a hollow fiber membrane type fluid treatment device including, inter alia, a housing head portion which is connected with one end of the housing body portion and has a resin layer where the hollow fiber membrane bundle is fixed by using a resin composition, and a connection port which serves as a treatment liquid inlet; a housing head portion which is connected with the other end of the housing body portion and has a resin layer where the hollow fiber membrane bundle is fixed by using a resin composition, and a connection port which serves as a treatment liquid outlet; header caps attached to the housing head portions and having respective treatment target liquid connection ports; and an inner surface of a body portion of the tubular housing at the side of a treatment liquid inlet comprises a body straight portion and an end tapered portion which increases in diameter toward the end face of the housing body portion, and the hollow fiber membrane is arranged so that a distance between the hollow fiber membranes is gradually increased toward the end face on the treatment liquid inlet side along a taper of a tapered portion of the inner surface of the housing body portion, and wherein a liquid to be treated flows within the hollow fiber membranes and a treatment liquid flows outside of the hollow fiber membranes.

In setting forth the rejections, the Examiner asserts, inter alia, that FUKASAWA discloses the housing head portions (29, 20)[see page 3 of the Official Action]. Further, in rejecting claim 2, the Examiner asserts that KANNO discloses the presently claimed baffle plate (see page 7, paragraph 9 of the Official Action).

However, contrary to the Examiner's assertions, Applicants submit that the devices of the applied prior art are very different structurally from the presently claimed invention.

Discussion of FUKASAWA

In regard to each of the rejections which relies on FUKASAWA as a basis, Applicants submit that, it is apparent from Figure 4 of FUKASAWA, that FUKASAWA shows the inner surface of the body portion 15 being angled with respect to a longitudinal axis of the device.

Thus, Applicants submit that FUKASAWA, alone or in any properly reasoned combination, fails to disclose at least the presently claimed inner surface of a body portion of the tubular housing at the side of a treatment liquid inlet comprises a body straight portion and an end tapered portion, as recited in amended claim 1 (and as described in page 17, lines 6-9 and Figure 4 of the present Disclosure).

Additionally, as noted supra, Applicants submit that amended claim 1 recites that a liquid to be treated flows within the hollow fiber membranes and a treatment liquid flows outside of the hollow fiber membranes.

In this regard, Applicants submit that, in the artificial lung of FUKASAWA, the liquid to be treated (blood) flows outside of the hollow fibers and the treatment liquid (gas, oxygen, or air) flows through the hollow fibers in order to remove carbon dioxide from the blood and add oxygen to the blood.

Thus, Applicants submit that FUKASAWA, alone or in any properly reasoned combination, also fails to disclose the presently claimed liquid to be treated flowing within the hollow fiber membranes and a treatment liquid flowing outside of the hollow fiber membranes, as recited in amended claim 1.

Discussion of KANNO

In regard to the rejection which relies on KANNO to form part of the basis, Applicants submit that KANNO discloses that “[t]he support member 27 of FIG. 3 is disposed at least in the area of the annular rib 15 near the dialysate inlet port 17 and in the midst of the hollow fibers 19. The member 27 therefore pushes the fibers 19 onto the inner periphery of the annular rib 15. In other words, the member 27 secures the fibers 19 to the inner periphery of the annular rib 15. The hollow fibers 19 near the support member 27 are put together more densely than in the thin hollow cylinder and more densely than in the thick hollow cylinders 14.” (see Column 4, lines 40-49 and Figure 3 of KANNO).

More simply put, Applicants submit that the device of KANNO results in the hollow fibers being provided more densely in the head portions than in the body portion.

Thus, Applicants submit that KANNO, alone or in any properly reasoned combination, fails to disclose at least the presently claimed inner surface of a body portion of the tubular housing at the side of a treatment liquid inlet comprises a body straight portion and an end tapered portion which increases in diameter toward the end face of the housing body portion, and the hollow fiber membrane is arranged so that a distance between the hollow fiber membranes is gradually increased toward the end face on the treatment liquid inlet side along a taper of a tapered portion of the inner surface of the housing body portion, as recited in amended claim 1.

***FUKASAWA and KANNO constitute
Non-analogous Art***

Additionally, and independent of the above, Applicants submit that FUKASAWA is directed towards non-analogous art. More specifically, FUKASAWA is directed towards an artificial lung. As discussed in FUKASAWA, the artificial lung is used to remove carbon dioxide from blood and add oxygen to the blood (see, page 2, lines 5-10 of FUKASAWA).

Accordingly, Applicants submit that the disclosure of FUKASAWA is not reasonably pertinent to disclosure of an artificial kidney dialysis of KANNO because the matter to which FUKASAWA is directed toward (i.e., an artificial lung) would not have logically commended itself to an inventor's attention in considering his or her invention as a whole.

Advantages of the Present Invention

Applicants further submit that the present invention has at least an advantage over the applied prior art in that, because a distance between the hollow fiber membranes is gradually increased toward the end face on the treatment liquid inlet side along a taper of a tapered portion of the inner surface of the housing body portion, both removal of substances and prevention of breakage of the hollow fiber membranes are improved, i.e., in comparison to the applied prior art.

Conclusion

Accordingly, Applicants submit that the rejections of claims 1-19 under 35 U.S.C. §§ 102 and 103 are improper and should be withdrawn.

In view of the arguments herein, Applicants submit that independent claim 1 is in condition for allowance. With regard to dependent claims 13-19, Applicants assert that these

P28510.A05

claims are allowable on their own merit, as well as because they depend from independent claim 1 which Applicants have shown to be allowable.

Thus, it is respectfully submitted that all of the claims in the present application are clearly patentable over the references cited by the Examiner, either alone or in combination, and an indication to such effect is respectfully requested, in due course.

SUMMARY

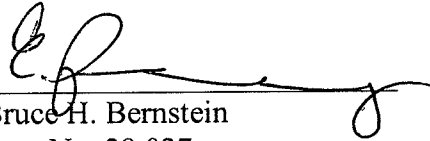
Applicants submit that the present application is in condition for allowance, and respectfully requests an indication to that effect. Applicants have argued the allowability of the claims and pointed out deficiencies of the applied references. Accordingly, reconsideration of the outstanding Official Action and allowance of the present application and all the claims therein are respectfully requested and is now believed to be appropriate.

Applicants submit that this amendment is being made to advance prosecution of the application to allowance and should not be considered as surrendering equivalents of the territory between the claims prior to the present amendment and the amended claims. Further, no acquiescence as to the propriety of the Examiner's rejection is made by the present amendment. All other amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

P28510.A05

Should the Examiner have any questions or comments regarding the present response or this application, the Examiner is respectfully invited to contact the undersigned at the below listed number.

Respectfully submitted,
Makoto FUKUDA et al.

A handwritten signature in black ink, appearing to read 'B. Bernstein', written over a horizontal line.

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